PATENT
Docket No. 0026-0030

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of	)	
	)	
Sanjay GHEMAWAT et al.	)	Group Art Unit: 2161
	)	
Application No.: 10/608,039	)	Examiner: C. Daye
	)	
Filed: June 30, 2003	)	
	)	
For: GARBAGE COLLECTING SYSTEMS AND METHODS	)	

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RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

In response to the Notification of Non-Compliant Appeal Brief dated March 26, 2007, Appellants submit the following remarks:

Remarks begin on page 2 of this paper.

REMARKS

In the Notification of Non-Compliant Appeal Brief, dated March 26, 2007, the Examiner indicated that the Appeal Brief, filed December 13, 2006, does not comply with 37 C.F.R. § 41.37. The Examiner indicated that Appellants did not provide in the Summary of Claimed Subject Matter section a separate statement for each of the dependent claims involved in the appeal and argued separately.

While Appellants do not agree with the Examiner's interpretation of 37 C.F.R. 41.37(c)(1)(v), Appellants submit herewith a replacement Summary of Claimed Subject Matter section that identifies examples of where support can be found in the specification and drawings for each of the independent claims and each of the dependent claims argued separately.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY SNYDER, LLP

/Paul A. Harrity/
Paul A. Harrity
Reg. No. 39,574

Date: April 9, 2007
11350 Random Hills Road
Suite 600
Fairfax, Virginia 22030
(571) 432-0800

ATTACHMENT: REPLACEMENT SHEETS FOR SUMMARY OF CLAIMED SUBJECT MATTER

V. SUMMARY OF CLAIMED SUBJECT MATTER

In the paragraphs that follow, a concise explanation of the independent claims and the claims reciting means-plus-function or step-plus-function language that are involved in this appeal will be provided by referring, in parenthesis, to examples of where support can be found in the specification and drawings.

Claim 1 recites a method for deleting one or more of a plurality of files (Fig. 9), the files including one or more chunks stored by a plurality of servers (Fig. 1, 120; paragraph 0031). The method comprises identifying a file to be deleted (paragraph 0071); renaming the identified file (paragraph 0071); permanently deleting the renamed file a predetermined amount of time after renaming the identified file as part of a garbage collection process (paragraph 0072); receiving, from the servers, information concerning chunks stored by the servers (paragraph 0072); and identifying, to one of the servers, one of the chunks that corresponds to the permanently deleted file (paragraph 0072).

Claim 3 recites receiving an un-deletion instruction regarding the file (paragraph 0071); and restoring an original name to the file without permanently deleting the renamed file (paragraph 0071).

Claim 4 recites that the predetermined amount of time is a user-configurable amount of time (paragraph 0072).

Claim 5 recites that the user-configurable amount of time differs for different ones of the files (originally filed claim 5).

Claim 8 recites identifying an orphaned chunk, including: providing a mapping of file names to chunks (Fig. 4, 420; paragraphs 0042 and 0073), and identifying a chunk, as

the orphaned chunk, that is not reachable from any of the file names (paragraph 0073); and deleting the orphaned chunk (paragraph 0073).

Claim 10 recites maintaining versions of the chunks (paragraphs 0043 and 0075); identifying a stale chunk based on the versions of the chunks (paragraph 0076); and deleting the stale chunk (paragraph 0077).

Claim 12 recites a system (Fig. 1, FILE SYSTEM) for deleting a file that includes data stored by a plurality of servers (Fig. 1, 120; paragraph 0031). The system comprises means for identifying a file to be deleted (paragraph 0071); means for logging deletion of the identified file (paragraph 0071); means for permanently deleting the file during a garbage collection process that occurs after logging deletion of the identified file (paragraph 0072); means for receiving, from the servers, information concerning data stored by the servers (paragraph 0072); and means for identifying, to one of the servers, that of the data that corresponds to the file that was permanently deleted (paragraph 0072).

Claim 13 recites a file system (Fig. 1, FILE SYSTEM) that comprises a plurality of servers (Fig. 1, 120) configured to store files as chunks (paragraph 0031), each of the files including one or more of the chunks (paragraph 0031); and a master (Fig. 1, 130) connected to the servers (Fig. 1, 120) and configured to identify one of the files to be deleted (paragraph 0071), rename the identified file (paragraph 0071), permanently delete one or more chunks associated with the renamed file a predetermined amount of time after renaming the identified file as part of a garbage collection process (paragraph 0072), receive, from the servers (Fig. 1, 120), information concerning chunks stored by the

servers (Fig. 1, 120; paragraph 0072), and identify, to one of the servers (Fig. 1, 120), one of the chunks that corresponds to one of the one or more permanently deleted chunks (paragraph 0072).

Claim 14 recites a method for deleting orphaned chunks of a plurality of chunks stored by a plurality of servers (Fig. 1, 120; Fig. 9). The method comprises providing a mapping of file names to chunks (paragraphs 0041-0042); identifying chunks, as orphaned chunks, that are not reachable from any of the file names (paragraph 0073); deleting the orphaned chunks (paragraph 0073); receiving, from the servers, information concerning chunks stored by the servers (paragraph 0074); and identifying, to one of the servers, one of the chunks that corresponds to one of the deleted orphaned chunks (paragraph 0074).

Claim 16 recites deleting, by the one of the servers, the one of the chunks that corresponds to one of the orphaned chunks (paragraphs 0073 and 0074).

Claim 17 recites that the deletion of the orphaned chunks occurs as part of a garbage collection process (Fig. 9; paragraph 0071).

Claim 18 recites a system for deleting orphaned chunks of a plurality of chunks stored by a plurality of servers (Fig. 1, 120; Fig. 9; paragraph 0031; paragraph 0073). The system comprises means for mapping file names to chunks (paragraphs 0041-0042); means for identifying chunks, as orphaned chunks, that are not reachable from any of the file names (paragraph 0073); means for deleting the orphaned chunks as part of a garbage collection process (paragraph 0073); means for receiving, from the servers, information concerning chunks stored by the servers (paragraph 0074); and means for identifying, to

one of the servers, one of the chunks that corresponds to one of the deleted orphaned chunks (paragraph 0074).

Claim 19 recites a file system (Fig. 1, FILE SYSTEM) that comprises a plurality of servers (Fig. 1, 120) configured to store files as chunks (paragraph 0031), each of the files including one or more of the chunks (paragraph 0031); and a master (Fig. 1, 130) connected to the servers (Fig. 1, 120) and configured to map file names to chunks (paragraphs 0040-0042), identify chunks, as orphaned chunks, that are not reachable from any of the file names (paragraph 0073), delete the orphaned chunks (paragraph 0073), receive, from the servers, information concerning chunks stored by the servers (paragraph 0074), and identify, to one of the servers, one of the chunks that corresponds to one of the deleted orphaned chunks (paragraph 0074).

Claim 20 recites a method for deleting stale replicas of chunks (Fig. 9), the replicas being stored by a plurality of servers (Fig. 1, 120, paragraph 0031). The method comprises associating version information with replicas of chunks (paragraphs 0042-0043; paragraphs 0075-0076); identifying stale replicas based on the associated version information (paragraph 0076); deleting the stale replicas (paragraph 0077; paragraph 0073); receiving, from the servers, information concerning replicas stored by the servers (paragraph 0077; paragraph 0074); and identifying, to one of the servers, one of the replicas that corresponds to one of the deleted stale replicas (paragraph 0077; paragraph 0074).

Claim 21 recites that the version information for one of the replicas is updated each time a lease is granted for the one of the replicas (paragraph 0075).

Claim 24 recites a system for deleting stale replicas of chunks, the replicas being stored by a plurality of servers (Fig. 1, 120; paragraph 0031). The system comprises means for generating version information for replicas of chunks (paragraphs 0042-0043; paragraphs 0075-0076); means for identifying stale replicas based on the generated version information (paragraph 0076); means for deleting the stale replicas as part of a garbage collection process (paragraph 0077; paragraph 0073); means for receiving, from the servers, information concerning replicas stored by the servers (paragraph 0077; paragraph 0074); and means for identifying, to one of the servers, one of the replicas that corresponds to one of the deleted stale replicas (paragraph 0077; paragraph 0074).

Claim 25 recites a file system (Fig. 1, FILE SYSTEM) that stores files as chunks (paragraph 0031). The file system (Fig. 1, FILE SYSTEM) comprises a plurality of servers (Fig. 1, 120) configured to store files as chunks (paragraph 0031); and a master (Fig. 1, 130) connected to the servers (Fig. 1, 120) and configured to associate version information with the chunks (paragraphs 0042-0043; paragraphs 0075-0076), identify stale chunks based on the associated version information (paragraph 0076), delete the stale chunks (paragraph 0077; paragraph 0073), receive, from the servers, information concerning replicas stored by the servers (paragraph 0077; paragraph 0074), and identify, to one of the servers, one of the replicas that corresponds to one of the deleted stale chunks (paragraph 0077; paragraph 0074).